

NHS Tayside

Local Report ~ April 2008

# Blood Transfusion



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## **Blood Transfusion**

NHS Quality Improvement Scotland (NHS QIS) is committed to equality and diversity. We have assessed the performance assessment function for likely impact on the six equality groups defined by age, disability, gender, race, religion/belief and sexual orientation. For this equality and diversity impact assessment, please see our website ([www.nhshealthquality.org](http://www.nhshealthquality.org)). The full report in electronic or paper form is available on request from the NHS QIS Equality and Diversity Officer.

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# 1 Setting the scene

NHS Quality Improvement Scotland (NHS QIS) was set up by the Scottish Parliament in 2003 to take the lead in improving the quality of care and treatment delivered by NHSScotland. NHS QIS does this by setting standards and monitoring performance, and by providing NHSScotland with advice, guidance and support on effective clinical practice and service improvements.

The Scottish National Blood Transfusion Service (SNBTS) is responsible for collecting, processing, storing and supplying all blood and blood components in Scotland and NHS boards are responsible for ordering and managing their supplies in a safe and effective manner. The Scottish Executive introduced a programme of work to improve and support transfusion practice in Scotland and, as a consequence, NHS QIS appointed a project group to develop clinical standards for blood transfusion practices. The project group developed four standards, covering: core principles; clinical management – pre-transfusion; clinical management – hospital transfusion laboratory; and clinical management – blood and blood component collection, administration and monitoring. The Clinical Standards for Blood Transfusion were published in September 2006. These include details of the project group which set the standards and are available on request from NHS QIS or can be downloaded from the website ([www.nhshealthquality.org](http://www.nhshealthquality.org)).

## About this report

This report presents the findings from the peer review of **NHS Tayside's** performance against the blood transfusion standards.

The review process has three key phases: preparation prior to the visit; the visit; and the report production and publication following the visit. (See flow chart in Appendix 2 for further detail.) During the visit, each multidisciplinary review team assesses performance using the categories 'met', 'not met' and 'not met (insufficient evidence)', as detailed below.

- **'Met'** applies where the evidence demonstrates the standard and/or criterion is being attained.
- **'Not met'** applies where the evidence demonstrates the standard and/or criterion is not being attained.
- **'Not met (insufficient evidence)'** applies where no evidence is available for the review team, or where the evidence available is insufficient to allow an assessment to be made.

A final category **'not applicable'** is used where a standard and/or criterion does not apply to the NHS board under review.

Each review team is led by an experienced reviewer, who is responsible for guiding the team in their work and ensuring that team members are in agreement about the assessment reached. Membership of the review team visiting **NHS Tayside** on **15 January 2008** can be found in Appendix 3.

## 2 Summary of findings

### 2.1 Overview of local service provision

Tayside is situated in the east of Scotland and has a population of around 391,639<sup>1</sup>. Many of the population live in urban areas, of which Dundee and Perth are the largest in the region, although a significant proportion live in rural areas.

#### Local NHS system and services

Tayside NHS Board is responsible for improving the health of the local population and for the delivery of the healthcare required. It provides strategic leadership and has responsibility for the efficient, effective and accountable performance of the NHS in Tayside.

At the time of the review visit, NHS Tayside provided acute and specialist services throughout its divisions, Ninewells Hospital, Dundee, provides acute care, Perth Royal Infirmary provides acute and elective surgery and Stracathro Hospital, Brechin, provides day surgery. There are three community health partnerships (CHPs) within NHS Tayside which cover 12 community hospitals and 76 GP practices.

Further information about the local NHS system can be accessed via the website of NHS Tayside ([www.nhstayside.scot.nhs.uk/](http://www.nhstayside.scot.nhs.uk/)).

There are two hospital blood banks accommodated within NHS Tayside region, an NHS East of Scotland Blood Transfusion Service (ESBTS) laboratory based at Ninewells Hospital supplies blood and blood components to all clinical areas, medical centres and designated community hospitals throughout Dundee and Angus. The NHS Tayside laboratory based at Perth Royal Infirmary supplies blood and blood components to all clinical areas, medical centres and community hospitals involved in blood transfusions throughout the Perth and Kinross areas.

In the 12 months prior to the review visit to NHS Tayside 14,271 red blood cell units had been transfused: 1,047 units of platelets: 1,083 units of fresh frozen plasma and 181 cryoprecipitate were also transfused during this period.

The NHSScotland Better Blood Transfusion Programme (BBTP) is supported by a full-time transfusion practitioner based at Ninewells Hospital, and a part-time transfusion practitioner based at Perth Royal Infirmary. At the time of the review visit the part-time transfusion practitioner post was vacant.

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<sup>1</sup> General Register Office for Scotland. Mid-2006 Population Estimates Scotland: Population Estimates by Age and Sex and Administrative Area. First published on 26 April 2007. Revised 27 July 2007. Available from: <http://www.gro-scotland.gov.uk/files>

## **2.2 Summary of findings against the standards**

A summary of the findings from the review, including examples of local initiatives drawn to the attention of the review team, is presented in this section. A detailed description of performance against the standards/criteria is included in Section 3.

### **Core principles**

NHS Tayside has an active hospital transfusion committee (HTC) that was established in 1997. Membership comprises of multidisciplinary representatives from across NHS Tayside area. The HTC meets quarterly and accountability is clearly set out in its reporting structure.

There was good evidence of appropriate blood transfusion practice audit activity and new practice implementation following outcomes from these audits. Various methods of communication are used in the dissemination of audit findings to relevant staff and stakeholder groups.

The NHS Tayside adverse incident management (AIM) policy details the process for recording and reporting clinical and non clinical incidents using the appropriate systems which have been adopted by NHS Tayside. All blood transfusion related adverse or near miss incidents are discussed at HTC meetings.

NHS Tayside uses the 'bag and tag' system to ensure all units of blood and blood components received into the hospital laboratories can be traced to its recipient or to its final fate if not transfused. Traceability documentation is maintained by controlled staff access and is securely stored for 30 years.

All staff who participate in the blood transfusion process within NHS Tayside are trained to establish and maintain patient identification at every stage of the blood transfusion event. However, at the time of the review visit, written procedures for blood and blood component transfusion did not specify gender recording at every stage of the blood transfusion process. The requirement to include gender on all documentation will be addressed during the 6-monthly review of the newly implemented NHS Tayside establishing patient identity policy (2007).

### **Clinical management – pre-transfusion**

NHS Tayside informed the review team that there is a system in place for staff to record discussions with patients on treatment options and alternatives to transfusion. While discussions do take place, a documentation audit in 2007 found poor compliance with this procedure. The newly established conservation group, through the HTC, has been tasked with developing an improvement plan to address recording of blood transfusion discussions with patients.

A wide range of leaflets are available in all clinical areas. There is good access to translation services when required. NHS Tayside is introducing an online system for staff to access patient information leaflets. The transfusion practitioners are responsible for ensuring all clinical areas have sufficient stock of leaflets and are informed of any updates to patient leaflets.

In emergency situations where pre-transfusion discussion is not possible, staff would endeavour to establish the identity of the patient through checking their personal belongings and making enquiries with accompanying family or friends. Hospital notes would also be checked for special requirements or advance directives.

Findings from a documentation audit carried out in 2007 found extremely good compliance with blood and blood component prescriptions being signed by a qualified practitioner.

### **Clinical management – hospital transfusion laboratory**

Both transfusion laboratories within NHS Tayside comply with current regulatory requirements: Clinical Pathology Accreditation (UK) Ltd (CPA) and the Medicines and Healthcare products Regulatory Agency (MHRA).

Protocols for the use of O RhD negative blood are in place and supported by an information technology (IT) system. Satellite fridges are located in strategic areas throughout NHS Tayside for the treatment of patients in emergency situations.

The NHS Tayside use of blood and blood components policy describes the procedure for managing blood stock. SNBTS monitors blood and blood component ordering monthly to ensure NHS Tayside wastage rates remain below target.

### **Clinical management – blood and blood component collection, administration and monitoring**

The board had recognised the need to include gender as part of the minimum data set requirement when completing transfusion documentation. The requirement to include gender on all documentation will be addressed during the 6-monthly review of the establishing patient identity policy.

Patients receiving a blood transfusion have observations of blood pressure, pulse, temperature and respirations recorded throughout the duration of the transfusion and for a period of time post transfusion to support identification of any adverse reactions. There are clear escalation procedures in place for staff to follow should any concerns arise during the transfusion event. The Scottish Early Warning System (SEWS) is used throughout the board area.

Laminated escalation flow charts are displayed in all applicable ward areas.

The review team found good evidence of procedures used to record and report serious adverse blood reactions and events to Serious Adverse Blood Reactions and Events (SABRE)/Serious Hazards of Transfusion (SHOT).

## 3 Detailed findings against the standards

### Standard 1a: Core Principles

#### **Standard Statement**

*There are systems in place supporting clinical governance to ensure safe, effective and appropriate blood transfusion.*

#### **NHS Tayside**

#### **Essential Criteria**

*1a.1: There is an established, active, multidisciplinary hospital transfusion committee (HTC) that has defined responsibilities and accountability to the chief executive/NHS board via the clinical governance structure.*

#### **STATUS: Met**

NHS Tayside has an established, active, multidisciplinary hospital transfusion committee (HTC) which was formed in 1997. HTC minutes are forwarded to the delivery unit risk, health and safety management group for information and discussion. Copies are also sent to the delivery unit chief executive, medical director, director of nursing and to the improvement and quality subcommittee. Minutes of the delivery unit risk, health and safety management group are subsequently submitted to the audit committee, that reports into the NHS Tayside improvement and quality committee and also to the drugs and therapeutics committee.

The committee meets quarterly and membership includes representatives from Perth Royal Infirmary, Ninewells Hospital, Dundee, Fernbrae Hospital, Dundee, and the Royal Victoria Hospital, Dundee. The review team was informed that representation from Stracathro Hospital, Brechin, and other community facilities is being sought. The board is considering introducing 'themed' meetings to focus discussions by having a variety of clinical topic-specific issues on the meeting agenda. Video conferencing links are also being considered to make attendance easier for members.

Copies of HTC minutes are forwarded to various groups and senior personnel for discussions on risk and safety issues relating to blood transfusion. Blood transfusion incident reporting is a standing item on the HTC meeting agendas. The NHS Tayside HTC has a clearly defined documented remit which outlines its responsibilities and accountabilities.

*1a.2: The HTC has roles and responsibilities as outlined in MEL(1999)9 and HDL(2003)19. These include involvement in multi-professional audit, education and training, development and modification of guidelines and protocols, and involvement of stakeholders.*

**STATUS: Met**

NHS Tayside is involved in multidisciplinary audit. Audit activity is undertaken by the transfusion practitioner with medical and nursing staff under the direction of a lead clinician. The review team noted evidence of considerable audit related to blood transfusion and new practice implementation following outcomes from these audits. For example, an orthopaedic audit was carried out to review routine blood crossmatching for patients undergoing hip and knee replacement surgeries. The outcomes from this audit were identified and as a result, NHS Tayside's maximum surgical blood ordering schedule (MSBOS) policy was updated and references to blood crossmatching were changed to blood group and save, unless there is a specific clinical indication of the need for transfusion. Audit data are disseminated widely to relevant staff groups and stakeholders using various methods of communication.

There is an established and active hospital transfusion team (HTT) responsible for education and training in blood transfusion. Blood transfusion features as a standing item on the HTC agenda where regular updates are presented by the transfusion practitioner. The review team was also informed that recording staff training was not always being fully documented and this issue is being addressed and members of the HTC are working closely with the nursing and medical director to ensure that all staff are aware of mandatory blood transfusion training requirements and how to access training. Training is available electronically and face-to-face. A blood transfusion clinical effectiveness half-day session has been arranged by the transfusion practitioners in January 2008 and it was reported that staff interest in attending this session was high.

All policies are ratified and disseminated in accordance with guidance provided in the NHS Tayside document control policy. The HTC is responsible for developing policies and protocols.

*1a.3: The HTC, in collaboration with the clinical governance committee, implements the NHSScotland Better Blood Transfusion Programme (BBTP).*

**STATUS: Met**

NHS Tayside has an established HTT that leads the implementation of the Better Blood Transfusion Programme Level 1: Safe Transfusion Practice training (BBTP) and monitors progress against the outlined key performance indicators. Membership includes the HTC chairman, clinical director of East of Scotland Blood Transfusion Service, (ESBTS), a consultant haematologist and 2 transfusion practitioners.

Representation covers all areas within NHS Tayside. The review team commended the board for its active HTC and the frequency of meetings.

The transfusion practitioner/s attends HTC meetings and reports on all BBTP related work progress. At the time of the visit, the BBTP did not feature as a standing item on the HTC meeting agenda. The review team encouraged the board to consider including the BBTP as a standing agenda item on the HTC meeting agenda.

*1a.4: The HTC reviews all reports of adverse events and near miss incidents relating to blood transfusion and, in response, implements changes in practice where necessary.*

#### **STATUS: Met**

All adverse events and near miss incidents relating to blood transfusion are discussed under the adverse events item on the HTC agenda.

The NHS Tayside and ESBTS clinical use of blood and blood components policy sets out a course of action which clearly details the procedures to be followed by staff to effectively record, investigate and manage adverse or near miss incidents across NHS Tayside. The board uses an electronic incident reporting form (IR1) to record all clinical and non clinical incidents along with a traffic light grading and root cause analysis system to determine the extent of the incident. All incidents graded as high risk, red incidents, require a detailed risk control plan. There is a robust incident reporting system in place for recording red incidents that has been approved by the Medicines and Healthcare products Regulatory Agency (MHRA). Red incidents are reported to the NHS Tayside delivery unit risk, health and safety meetings for action and changes in practice are implemented where appropriate. Lessons learned from incidents are shared with relevant staff via clinical governance forums. Reports of serious adverse events or reactions and near miss incidents are also submitted to Serious Adverse Blood Reactions and Events (SABRE) and the Serious Hazards of Transfusion (SHOT) initiative.

It was noted, that there is no specific guidance for the management of patients receiving irradiated blood components in NHS Tayside's use of blood and blood component policy (2007). The board assured the review team that a detailed discussion would take place with the haematologist if and when required. It was further reported that the policy would include this amendment following its next review.

## Standard 1b: Core Principles

### Standard Statement

*The NHS board has a system in place to ensure that every unit of blood component received into the hospital transfusion laboratory can be unmistakably traced to its recipient, or to its final fate if not transfused.*

### NHS Tayside

### Essential Criterion

*1b.1: There is a validated system to ensure that evidence of unmistakable traceability is generated, stored and accessible for 30 years.*

### STATUS: Met

NHS Tayside has a standard operating procedure (SOP) in place to provide staff with guidance on blood transfusion traceability. The board uses the 'bag and tag' system which issues a traceability label from the pre-transfusion stage and is tracked throughout the journey of the blood unit until its return to the laboratory to confirm its transfusion to the patient. The returned section of the traceability label is securely stored both in paper and electronic form for the recommended period of 30 years.

The board also undertakes an annual audit of its laboratory services which includes blood transfusion traceability. The electronic (computerised) system used to store traceability information generates a daily report of unreturned traceability labels and follow-up action is taken by issuing clinical areas with reminder notices asking blood bank staff to confirm the unit has been transfused.

The review team commended NHS Tayside on its excellent traceability system.

## Standard 1c: Core Principles

### Standard Statement

*There is a robust system in place to establish patient identification details and maintain this at every stage of the clinical transfusion process.*

### NHS Tayside

#### Essential Criteria

*1c.1: The minimum identification data set (surname, forename, sex, date of birth and unique identification number, eg Community Health Index [CHI]) is used at every stage of the clinical transfusion process to positively identify the patient.*

#### STATUS: Not met

At the time of the review visit, not all NHS Tayside written procedures for blood and blood component transfusion detailed gender recording at every stage of the blood transfusion process. The recently ratified NHS Tayside establishing patient identity policy does not include gender as part of the minimum data set, however, staff reported that this policy is to be reviewed in 6-months and changes will be made to include gender as part of the minimum data set.

All staff involved in the blood transfusion process are required to undertake BBTP training which includes reference to ensuring positive patient identification. However, the board had identified challenges regarding low uptake of staff training in the blood transfusion process. At the time of the review visit, an improvement plan with targeted timescales had been developed to address ways of raising staff awareness of core blood transfusion training requirements and encouraging training uptake. Across NHS Tayside, the transfusion practitioners have implemented monthly face-to-face blood transfusion training sessions and link trainers have been identified in the Royal Victoria Hospital, where recent staff training figures were noted to have increased to almost full compliance. OrasGold™ online recording and assessment system training is also encouraged.

*1c.2: All patients must be identifiable at all times. Inpatients and day patients must wear an identification wristband. If the wristband becomes inaccessible for any reason, an alternative, risk-assessed form of identification is adopted immediately.*

#### STATUS: Not met

The recently ratified NHS Tayside establishing patient identity policy and NHS Tayside use of blood and blood component policy states that patients receiving a blood transfusion must wear an identity band at all times. If the patient is not wearing a wristband, they would not be transfused. However, if the wristband becomes inaccessible for any reason, there is no formal alternative risk-assessed form of identification available. Staff reported that in theatre, if the wristband is likely to

be covered by drapes, the wristband would be removed and a new identification band applied to the ankle or taped onto the patient's chest or forehead.

The review team encouraged the NHS Tayside HTC to develop a risk-assessed alternative to identity bands.

*1c.3: There is a system (eg distinctive wristbands) to alert qualified practitioners to patients who have specific transfusion requirements, including the wish to not be transfused.*

**STATUS: Met**

NHS Tayside uses a red band system to alert qualified practitioners to patients who have a specific transfusion requirement which includes the wish not to be transfused. The red band alerts staff to refer to the patient's medical notes for information regarding transfusion, allergy or special circumstances and requirements. The NHS Tayside informed consent policy outlines actions to be taken if a patient refuses certain interventions.

*1c.4: For patients whose identity cannot be confirmed (eg unconscious patients or patients with communication difficulties), a minimum of gender and one unique identifier (eg accident and emergency number or CHI number) is essential for positive patient identification.*

**STATUS: Met**

The NHS Tayside establishing patient identity policy includes guidance for staff on how to manage unidentified patients admitted to the accident and emergency (A&E) department. The procedure notes a patient would be allocated a unique A&E number. In addition, unconscious patients who require transfusion would also be issued with a red identity band to which are attached a number of coded red sticky labels that are detachable and used to label blood samples, request forms and blood components. The labels are then cross checked against the patient's red identity band to check blood compatibility until a patient's identity could be established.

Guidelines are in place to assist staff when identifying patients with communication difficulties. Language cards or the 24-hour Language Line telephone translation services are used in NHS Tayside to support communication and establish patient identification details where appropriate.

## Standard 1d: Core Principles

### Standard Statement

*The NHS board has a strategy for management of blood shortages.*

### NHS Tayside

### Essential Criterion

*1d.1: Emergency blood management arrangements (EBMA) are established as defined in HDL(2005)25.*

### STATUS: Met

NHS Tayside provided extremely good documented evidence to support its emergency blood management arrangements (EBMA). Following discussions at the HTC, a plan for managing EBMA was drafted and signed off by the HTC. The plan uses a grading system and outlines the process for cancellation of elective surgery in times of blood shortages.

NHS Tayside had agreed a membership for its EBMA group, however, at the time of the review visit, the EBMA had not been activated. The review team encouraged the board to introduce annual EBMA meetings to its schedule.

## Standard 2a: Clinical Management – Pre-Transfusion

### Standard Statement

*The decision to transfuse is made following consideration of the potential risks and benefits of, and the alternatives to, transfusion. Where possible this is discussed between the clinician and patient (or their legal guardian) in advance of transfusion.*

### NHS Tayside

#### Essential Criteria

*2a.1: The patient's records contain evidence that the reason for transfusion of blood or blood components has been explained and discussed with the patient. This includes discussion of valid alternatives to transfusion and the option to refuse.*

#### STATUS: Not met

Staff involved in the blood transfusion process are aware of the need to ensure that patients' records must contain evidence that the reason for transfusion of blood or blood components had been explained and discussed. These discussions should also include valid alternatives to transfusion and the option to refuse. However, although a discussion may take place, the NHS Tayside blood transfusion audit (2007) demonstrated that patients' medical records did not contain documented evidence of the discussion between the clinician and the patient. The board is considering a variety of options to address the consent issue and is keen to participate in a planned national approach.

The findings from the transfusion audit had been discussed at the HTC and it was agreed that the newly convened conservation group would develop an improvement plan to address recording of blood transfusion discussions with patients.

*2a.2: Leaflets explaining the risks and benefits of, and alternatives to, transfusion are readily available for patients who may require to be, or have been transfused.*

#### STATUS: Met

The national patient information leaflets: Receiving a Transfusion: Information for patients and relatives; and Red Cell Transfusion: Information for doctors and nurses are readily available in clinical areas for patients and relatives. Copies of these leaflets are sourced from SNBTS and transfusion practitioners are responsible for ensuring all areas receive new updates. Responsibility lies with staff to inform transfusion practitioners when additional stock is required. All patient leaflets are soon to be available to staff electronically.

*2a.3: Where pre-transfusion discussion is not possible (eg in an emergency) there is a system, compatible with the patient's clinical needs, to investigate and act in accordance with the patient's treatment preferences. This includes compliance with an advance decision document.*

**STATUS: Met**

In emergency situations when a patient may be admitted to hospital unconscious, A&E staff ensure that measures are taken to try and establish the identity of the patient by checking their personal effects and asking any accompanying family or friends to confirm their identity. It also states in the NHS Tayside establishing patient identity policy that where extreme emergency and life-threatening situations occur clinical care may take priority over establishing patient identification.

NHS Tayside has an informed consent policy which makes provision for patients who wish to lodge an advance decision document. Staff reported that no adverse events or patient complaints about non compliance with their transfusion treatment preferences are known to have been received by the board.

*2a.4: When pre-transfusion discussion has not taken place, the reasons for transfusion (based on risks and benefits) are discussed with the patient and written information offered retrospectively.*

**STATUS: Not met**

Findings from the documentation audit concluded that post-transfusion discussions, although given verbally, were not routinely recorded in the patient's notes. The newly ratified NHS Tayside use of blood and blood components procedure states that if a pre-transfusion discussion is not possible, arrangements must be made to discuss the reasons for transfusion with the patient or relatives at the earliest opportunity. The HTC and blood conservation group are planning to take forward the work surrounding the documentation of consent, and the pilot and implementation of any national solution.

## Standard 2b: Clinical Management – Pre-Transfusion

### Standard Statement

*Positive patient identification at the time of sampling and the use of a minimum identification data set on samples and request forms is essential for pre-transfusion testing and blood component requests.*

### NHS Tayside

### Essential Criterion

*2b.1: Blood samples for transfusion purposes are obtained and labelled in accordance with local protocols, which are based on national guidelines.*

### STATUS: Not met

NHS Tayside has procedures for obtaining and labelling blood samples, however, they do not include gender as part of the minimum identification data set used on blood request forms, sample tubes and patient identification bands. However, staff reported that the Community Health Index (CHI) and Typenex numbers identify gender and the laboratories do not process samples unless gender is known.

Positive patient identification will be possible following the review of the NHS Tayside establishing patient identification policy in July 2008.

The current venepuncture policy used states pre-labelling of the blood sample tubes is prohibited.

The review team acknowledged the comprehensive venepuncture procedures in place.

## Standard 2c: Clinical Management – Pre-Transfusion

### Standard Statement

*Blood and blood component prescribing is the responsibility of a qualified practitioner.*

### NHS Tayside

#### Essential Criteria

*2c.1: All prescriptions for blood and blood components are signed by a qualified practitioner.*

#### STATUS: Met

The NHS Tayside documentation audit (July 2007) recorded full compliance showing all prescriptions for blood and blood components are signed by a qualified practitioner.

*2c.2: Blood and blood component prescriptions specify: blood component to be administered; number of units (millilitres in paediatric patients) to be transfused; duration of transfusion; any special requirements; and any special instructions.*

#### STATUS: Not met

A documentation audit carried out in 2007 confirmed that blood and blood component prescriptions specified blood component to be administered, number of units to be transfused, duration of transfusion and any special instructions, this met four of the five essential requirements. The one component missing is special requirements. The board has participated in a UK-wide questionnaire that was designed to confirm arrangements for ensuring patients with special requirements were met. Initial findings were disseminated through a poster presentation and the recommendations were due for publication in January 2008. Once the national recommendations have been received, the hospital transfusion laboratories and HTC will review its local arrangements.

## Standard 3a: Clinical Management – Hospital Transfusion Laboratory

### Standard Statement

*Laboratory operations comply with current regulatory requirements.*

### NHS Tayside

### Essential Criteria

*3a.1: All transfusion laboratories within the NHS board are accredited by Clinical Pathology Accreditation (UK) Ltd (CPA) or equivalent and are compliant with the Medicines and Healthcare products Regulatory Agency (MHRA) requirements.*

### STATUS: Met

NHS Tayside has two transfusion laboratories. Both are accredited with Clinical Pathology Accreditation (UK) Ltd (CPA) and are fully compliant with MHRA requirements. There was evidence of monitoring arrangements in place with community and independent hospitals to ensure that services commissioned for NHS patients on behalf of the board were compliant with the NHS QIS blood transfusion standards.

*3a.2: Competency-based training and assessment systems are in place and training records are maintained.*

### STATUS: Met

Training programmes for laboratory staff are in use at each of the hospital transfusion laboratories and individual training records are held in each laboratory. Many of the laboratory staff have registered with the BBTP and elearning materials are accessed through the OrasGold™ online recording and assessment system.

The training officer/co-ordinator, in conjunction with the laboratory manager, is responsible for ensuring that all transfusion laboratory staff receive competency-based training and assessment in line with CPA requirements.

## Standard 3b: Clinical Management – Hospital Transfusion Laboratory

### Standard Statement

*Procedures are in place to optimise blood use and minimise wastage.*

### NHS Tayside

#### Essential Criteria

*3b.1: Protocols endorsed by the HTC are in place, including but not limited to: the maximum surgical blood ordering schedule (MSBOS); massive blood loss; major incidents; and emergency blood management arrangements.*

#### STATUS: Met

Local procedures are in place throughout NHS Tayside to optimise blood use, blood wastage, massive blood loss and EBMA.

Perth Royal Infirmary had recently updated its major incident policy, however, at the time of the review visit, the policy had not been ratified. Review team members noted that, although Ninewells Hospital's major incident policy was compliant, the index appeared to be out of synchronisation with the actual page numbering. The board assured the review team that this would be rectified as a matter of urgency.

*3b.2: There is a stock management system to eliminate excess inventory and reduce waste, supported by an information technology (IT) system.*

#### STATUS: Met

There are stock management systems in place at Perth Royal Infirmary and the ESBTS blood bank. Protocols for the emergency issue of O RhD negative red cells are also in place and there are a number of satellite fridges positioned in key areas throughout NHS Tayside. O RhD negative blood is held in the main theatre and A&E department in Ninewells Hospital. In Perth Royal Infirmary, O RhD negative blood is also retained in the main theatre. Supplies of O RhD negative blood are also available in Arbroath Infirmary, Montrose Infirmary, Stracathro Hospital and Fernbrae Hospital for the treatment of patients in emergency situations or to support the transfer of the patient to Ninewells Hospital. Monthly blood component transaction reports are issued by the Scottish Regional Transfusion Centre to ensure wastage rates remain below agreed targets. Stock levels are agreed with the SNBTS supply chain, medical staff and the laboratory manager.

There is an information technology (IT) system in place that supports blood stock management and provides a full audit trail of all blood stock electronically scanned onto the system.

*3b.3: In collaboration with clinical specialties, laboratory staff participate in audit of transfusion issues.*

**STATUS: Met**

NHS Tayside provided good evidence that demonstrated laboratory staff participate in multidisciplinary transfusion issue audits, for example traceability, rejected sample collection audits and incidents. Hospital transfusion laboratory staff assist the transfusion practitioners with clinical and self-audit activity. SNBTS has designed a national audit programme which supports MHRA and CPA compliance in all aspects of transfusion practices.

## Standard 4a: Clinical Management – Blood and Blood Component Collection, Administration and Monitoring

### Standard Statement

*Positive patient identification is performed against the blood component and any accompanying documentation at every stage of the clinical transfusion process.*

### NHS Tayside

#### Essential Criteria

*4a.1: Only staff who have completed the BBTP continuing education programme (or equivalent) appropriate to their role can participate in the clinical transfusion process.*

#### STATUS: Not met

NHS Tayside has identified blood transfusion as a core skill, and staff are aware that only those who had undertaken the BBTP training are permitted to participate in the handling of blood and blood components, as stated in the use of blood and blood components policy (2007). Staff are encouraged to complete blood transfusion training using the OrasGold™ online recording and assessment system, and the learn blood transfusion website which forms part of the theoretical competency assessment. Significant challenges have been identified in the low number of staff participating in theoretical training and competency-based assessment. A training improvement plan has been developed to address these challenges and progress is being closely monitored on a 6-weekly basis when the clinical groups meet with the executive management team.

Individual staff members are responsible for identifying their own training needs. Staff awareness is being raised using various methods of communication which include blood transfusion and clinical effectiveness half day sessions. BBTP training is compulsory for all foundation year one junior doctors as it is a requirement of the General Medical Council (GMC) registration. All new staff receive appropriate BBTP training for their role in the blood transfusion process as part of their induction. NHS Tayside is currently looking at reviewing induction procedures to ensure staff complete all core training prior to commencing work in the clinical areas. Blood transfusion will be included in the future induction programme. Newly appointed ancillary staff (porters) shadow previously trained colleagues until they are able to demonstrate competency in the collection and movement of blood. NHS Tayside is participating in the national BBTP pilot for competency-based assessment, related to the blood collection component only.

*4a.2: The minimum identification data set is recorded on all transfusion documentation (see standard criterion 1c.1).*

**STATUS: Not met**

An audit of the completeness of the minimum data set on all blood transfusion documentation confirmed that gender was not being recorded on all documentation. The recently implemented NHS Tayside establishing patient identity policy does not include gender as part of the minimum data set. A review of the policy in July 2008 will ensure the necessary inclusion of gender as part of the minimum identification data set for use at every stage of the transfusion process. NHS Tayside operates a zero tolerance policy when requests and sample tubes do not meet the minimum identification criteria.

## Standard 4b: Clinical Management – Blood and Blood Component Collection, Administration and Monitoring

### Standard Statement

*Patients are monitored for any adverse events or reactions during and after the transfusion process as clinically indicated.*

### NHS Tayside

#### Essential Criteria

*4b.1: Patients are monitored according to hospital transfusion policy and any untoward events (including suspected adverse reactions) are immediately clinically managed and promptly reported to the HTL.*

#### STATUS: Not met

The board's use of blood and blood component policy states that a patient's baseline observations of pulse, temperature, respirations and blood pressure must be undertaken before the transfusion commences. Staff are encouraged to undertake a verbal check 5 minutes after the transfusion starts. Provided the patient has no problems, pulse and temperature must be checked every 15 minutes for the first half hour and then hourly until completion of transfusion. This schedule is repeated for each new blood unit.

In the event of a suspected adverse reaction, the transfusion would be ceased immediately, and the ESBTS duty medical officer and medical staff informed. The nature of the reaction would be identified, the appropriate treatment implemented and details recorded in the patient's notes. However, the documentation audit carried out in July 2007 concluded that the board was not fully compliant when demonstrating proof of completion of a transfusion related care plan. A blood transfusion integrated care pathway is under development and with its implementation will address this issue.

*4b.2: Serious adverse events and near miss incidents are reported on the clinical incident reporting system in accordance with local protocols.*

#### STATUS: Met

Adverse clinical events and near miss incidents are recorded on the NHS Tayside adverse incident management system. The system ensures that appropriate follow-up action is taken using the root cause analysis methodology. These investigations are carried out by biomedical scientists, transfusion medical staff and the transfusion practitioners. Minutes from the ESBTS incident meetings are sent to the HTC for information and any red/amber incidents are discussed with the group.

*4b.3: Reports of serious adverse events or reactions and near miss incidents are submitted to Serious Adverse Blood Reactions and Events (SABRE) and the Serious Hazards of Transfusion (SHOT) initiative by the relevant staff.*

**STATUS: Met**

NHS Tayside staff report serious adverse events and serious adverse reactions associated with blood components and blood transfusion following SNBTS national guidelines. The guidelines state that each hospital identifies designated individuals who have responsibilities for reporting serious adverse events or reactions and near miss incidents to SABRE and SHOT initiatives. Appropriately designated individuals have been appointed in specific areas across NHS Tayside. All staff involved in the blood transfusion process would be informed of blood incidents through a risk alert email, hard copies would be displayed in staff rooms and discussions would take place at daily staff handovers.

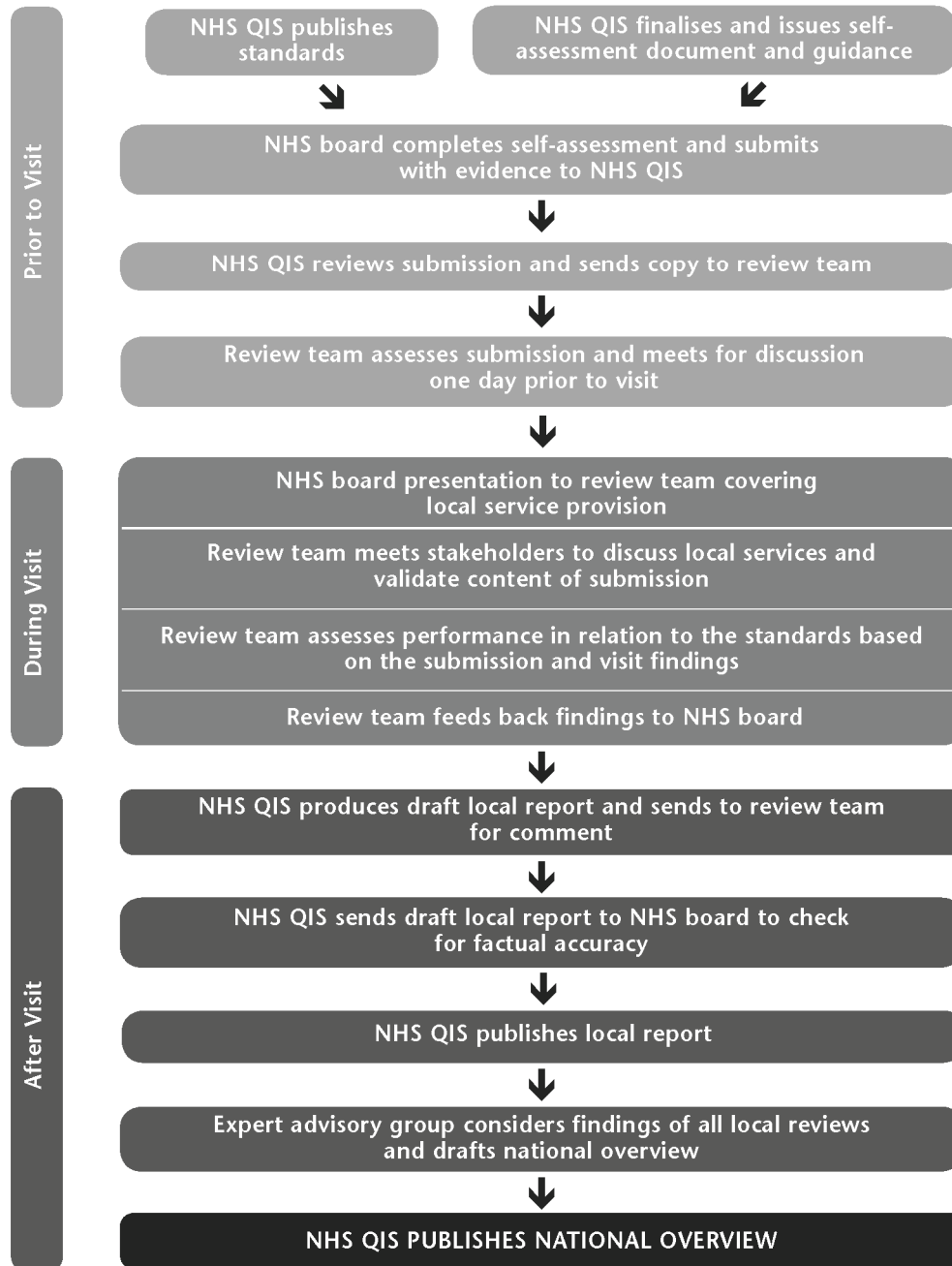
## Appendix 1 – Glossary of abbreviations

### Abbreviation

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<b>AIM</b>	adverse incident management
<b>A&amp;E</b>	accident and emergency
<b>BBTP</b>	Better Blood Transfusion Programme
<b>BCSH</b>	British Committee for Standards in Haematology
<b>CPA</b>	Clinical Pathology Accreditation (UK) Ltd
<b>EBMA</b>	emergency blood management arrangements
<b>ESBTS</b>	East of Scotland Blood Transfusion Service
<b>GMC</b>	General Medical Council
<b>HTC</b>	hospital transfusion committee
<b>HTT</b>	hospital transfusion team
<b>IT</b>	information technology
<b>MHRA</b>	Medicines and Healthcare products Regulatory Agency
<b>MSBOS</b>	maximum surgical blood ordering schedule
<b>NHS QIS</b>	NHS Quality Improvement Scotland
<b>ORAS</b>	online recording and assessment system
<b>SABRE</b>	Serious Adverse Blood Reactions and Events
<b>SEWS</b>	Scottish Early Warning System
<b>SHOT</b>	Serious Hazards of Transfusion
<b>SNBTS</b>	Scottish National Blood Transfusion Service
<b>SOP</b>	standard operating procedure

## Appendix 2 – Review process



## Appendix 3 – Details of review visit

The review visit to NHS Tayside was conducted on 15 January 2008.

### Review team members

**Mrs Betty Kyle (Team Leader)**

Senior Chief Biomedical Scientist, NHS Lanarkshire

**Ms Diane Creighton**

Transfusion Practitioner, NHS Greater Glasgow and Clyde

**Mrs Elizabeth Higgins**

Ward Manager, NHS Highland

**Mr Ian Malcolm**

Public Partner, Forth Valley

**Dr Judith Roberts**

Consultant Obstetrician, NHS Greater Glasgow and Clyde

### NHS Quality Improvement Scotland Staff

**Mrs Morag Kasmi**

Senior Project Officer

**Ms Angela Sutherland**

Project Officer

**Mr David Marshall**

Pharmacy Professional Adviser, Care Commission (Observer)

During the visit, members of the review team met with consultant and nursing staff, transfusion laboratory staff, transfusion practitioners and support staff from across the NHS board area.

The composition of each team varies, and members have no connection with the NHS board they are reviewing. Both of these factors facilitate the sharing of good practice across NHSScotland, and ensure that each review team assesses performance against the standards rather than make comparisons between one NHS board and another. The team remit does not include reviewing the work of individual healthcare professionals, variations in practice (and potential quality) within a service will be encountered and subsequently reported.



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## **NHS Quality Improvement Scotland**

Edinburgh Office  
Elliott House  
8-10 Hillside Crescent  
Edinburgh EH7 5EA

Phone: 0131 623 4300  
Textphone: 0131 623 4383

Email: [comments@nhshealthquality.org](mailto:comments@nhshealthquality.org)  
Website: [www.nhshealthquality.org](http://www.nhshealthquality.org)

Glasgow Office  
Delta House  
50 West Nile Street  
Glasgow G1 2NP

Phone: 0141 225 6999  
Textphone: 0141 241 6316